

CLAIMS

What is claimed is:

- 1 1. A method for conditioning a cellular thermoplastic resin comprising exposing
2 a cellular thermoplastic resin to a controlled humidity environment to obtain
3 a conditioned cellular thermoplastic resin.
- 1 2. A method for conditioning a cellular thermoplastic resin according to claim
2 1, wherein the cellular thermoplastic resin is a polyester resin.
- 1 3. A method for conditioning a cellular thermoplastic resin according to claim
2 1, wherein the cellular thermoplastic resin is selected from the group
3 consisting of polyethylene terephthalate, polyethylene naphthalate,
4 polyethylene isophthalate, polybutylene terephthalate, polytrimethylene
5 terephthalate and mixtures and copolymers thereof.
- 1 4. A method for conditioning a cellular thermoplastic resin according to claim
2 1, wherein the step of exposing a cellular thermoplastic resin to a controlled
3 humidity environment comprises exposing the cellular thermoplastic resin to
4 humidity level such that the final moisture level is at least about 0.34 percent
5 by weight.
- 1 5. A method for conditioning a cellular thermoplastic resin according to claim
2 1, wherein the conditioned cellular thermoplastic resin has a moisture level
3 of at least about 0.44 percent by weight.
- 1 6. A method for conditioning a cellular thermoplastic resin according to claim
2 1, wherein the conditioned cellular thermoplastic resin has a moisture level
3 of at least about 0.55 percent by weight.
- 1 7. A method for thermoforming a cellular thermoplastic resin, said method
2 comprising:

3 exposing a cellular thermoplastic resin to a controlled humidity
4 environment to obtain a conditioned cellular thermoplastic resin;
5 molding said conditioned cellular thermoplastic resin to form a desired
6 shape; and
7 heating said conditioned cellular thermoplastic resin to cause the
8 crystalline content of the thermoplastic resin to be at least about 20-30
9 percent.

1 8. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the cellular thermoplastic resin is a polyester resin.

1 9. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the cellular thermoplastic resin is selected from the group
3 consisting of polyethylene terephthalate, polyethylene naphthalate,
4 polyethylene isophthalate, polybutylene terephthalate, polytrimethylene
5 terephthalate and mixtures and copolymers thereof.

1 10. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the step of exposing a cellular thermoplastic resin to a controlled
3 humidity environment comprises exposing the cellular thermoplastic resin to
4 humidity level of at least 25 percent relative humidity at a temperature of at
5 least 32°C.

1 11. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the step of exposing a cellular thermoplastic resin to a controlled
3 humidity environment comprises exposing the cellular thermoplastic resin to
4 humidity level of at least 50 percent relative humidity at a temperature of at
5 least 32°C.

1 12. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the conditioned cellular thermoplastic resin has a moisture level
3 of at least about 0.34 percent by weight.

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- 1 13. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the conditioned cellular thermoplastic resin has a moisture level
3 of at least about 0.44 percent by weight.
- 1 14. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the conditioned cellular thermoplastic resin has a moisture level
3 of at least about 0.5 percent by weight.
- 1 15. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the step of heating the cellular thermoplastic resin causes the
3 crystalline content of the cellular thermoplastic resin to reach a
4 predetermined level.
- 1 16. A method for thermoforming a cellular thermoplastic resin according to claim
2 7, wherein the step of heating the cellular thermoplastic resin causes the
3 crystalline content of the cellular thermoplastic resin to be at least about 20
4 percent.
- 1 17. A cellular thermoplastic article thermoformed according to the method of
2 claim 7.
- 1 18. A cellular thermoplastic article according to claim 17, wherein the article is
2 a container for food.
- 1 19. A cellular thermoplastic article according to claim 18, wherein the article is
2 a dual-ovenable container for food.
- 1 20. A cellular thermoplastic article according to claim 17, wherein the article has
2 a total energy of at least about 0.40 Joules at about -29°C.